

PV Recycling in the US

Exploring Existing Models

Jennifer J. Woolwich, MA, CPHQ, CSSBB

June 11, 2009

US & Canada PV Demand, 2009E-2012E

Potential Module Failure

Demand ¹	Fail Rate 1.0% ²
5,597 MW	55.9 MW
22,388,000 Modules ³	223,880 Modules
5,597,000 Average Modules per Year	55,970 Average Modules per Year

Source: ¹ “2009 Global PV Demand Analysis and Forecast: The Anatomy of a Shakeout II,” Figure 6-11, page 111, D. Englander, S. Mehta, and T. Bradford, Prometheus Institute/Greentech Media, 2009.

² “Study on the Development of a Takeback and Recovery System for Photovoltaic Products,” Table 18, page 68, EPIA and BSW-Solar, 2007.

Note: ² Fail includes damaged, defective, degraded modules from factory gate to post installation.

³ Module quantity based on 250 watt module.

United States

PV Waste Management Policy

Regulation	Oversight
Resource Conservation and Recovery Act, (RCRA)	Federal
Toxicity Characteristic Leaching Procedure Standards, (TCLP)	Federal, Environmental Protection Agency, (EPA)
Multiple	State and Local
SEIA-EH&S Committee	Industry

United States

Current Recycling Models

Model	Collection/Processing/Financing
Electronics	Decentralized/Decentralized/Mix
Nickel/Cadmium Battery	Decentralized/Centralized/Mix
Individual Corporations	Decentralized/Decentralized/Mix

Market Research Results

- 100% think a collection system is needed
- Producers want to be member of fee based consortium to develop policy
- Financing a take back system needs further discussion
- Manufacturers need more information on waste management regulations
- Aggregated findings available at pvrecycling.com

International PV Recycling Model

Discussion
Information Sharing